1. Claim Rejections under 35 USC § 102

Regarding the claim 1-18 rejections based on prior art by Hatlelid et al, US 6,522,333, and hereafter referred to as Hatlelid we offer the following:

In general, emotive vector or emovector are terms coined by the applicant. Emovectors are defined and specific within the application. Prior art does not use this term nor does prior art expressly, impliedly or inherently teach this data structure, data entity or object. In computer applications, emovectors are a software entity, see '433 pg. 20, which have at least two distinct quantities, 1) an emotive state from a set of discrete emotive states and 2) an associated emotive intensity, from a range of values normalized to the author/sender of the emotion.

In general, Hatlelid discloses a system and method for communication over a network, which provides a behavioral context within which the communication is interpreted. A visual representation of a user is provided to a recipient. A set of behavioral characteristics of the visual representation is provided to the user, the behavioral characteristics representing contexts within which data is to be interpreted. The user selects a behavioral characteristic and inputs data to be communicated to the recipient, along with any specific behavioral commands. This is in distinction with '433, which neither provides nor claims the user necessitates any visual representation. In '433, the user need not select any behavioral characteristics representing contexts within which data is to be interpreted. Furthermore, '433 requires that the recipient **not** interpret the data from visual or aural cues nor from behavior represented by visual animation as in gestures, but from the user selected emotive state and associated normalized intensity itself.

Hatlelid attempts to transmit mood intensity and personality through the vehicle of behavioral characteristics. '433 does not transmit or process personality characteristics, mood or intensity through behavioral characteristics, only the users expressly selected emotion state and normalized emotive intensity, items expressly and impliedly not present in Hatlelid. Mood, personality and behavioral characteristics may all carry emotive content. However, all of these vehicles are subject to recipient interpretation as to users emotions. For example, a smile depiction may carry mood, personality or behavioral characteristics of the user/sender, but the receiver is left to interpret whether the sender is happy, what the sender is happy about, how

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happy the sender is according to the senders standard of happy, whether the sender just means the receiver no harm, whether the sender wishes that the receiver is happy, etc. The emotion is "happy" but behavior is an indirect means of transferring that information and is subject to much imprecision for that reason. The emotive state of "happy" is direct information and the addition of associated normalized intensity leaves no doubt as to the subjective quantification of that emotive state, answering the important issue of "how happy or extent of happiness".

In Hatlelid, data is communicated to the recipient concurrently with a behavioral movement of the visual representation associated with the selected behavioral characteristic, wherein the behavioral movement provides context to the recipient for interpreting the communicated data. In distinction with '433, the recipient is not given to make an interpretation as to emotive content, and must rely on the sender's precise emotive identity and normalized intensity.

In Hatlelid, behavioral characteristics include personality and mood intensity settings, and behavioral commands include gesture commands. The mood intensity selection allows the user to adjust which behavioral movements associated with the personality will be selected by assigning each movement a weight that determines the probability the movement will be selected. In distinction with '433, no behavioral movements are offered the user, and furthermore no behavioral movements are allowed to be interpreted by the recipient for mood intensity, the emotive intensity is directly selected by the sender and not interpretable by the recipient. This is partly because different users will apply similar visual cues and gestures for different emotions and moods or different visual cues and gestures for similar emotions, leading to ambiguity, confusion, misunderstanding in interpretation and imprecision in the emotive content intended by the user.

In Hatlelib, gesture selection allows the user to punctuate text by having the visual representation act out a specific behavioral movement or sequence of movements to communicate an instantaneous emotion or behavior. In distinction with '433, users do not select gestures, and text is framed by the emovector, not by a visual representation, act or movement.

In Hatlelib, text is analyzed by the recipient to generate behavioral movements based on the content of the text. In distinction with '433, text is analyzed by the recipient for the content of

emovectors and not to generate behavioral movements, but to discover the precise emotion intended by the user and directly communicated.

In Hatlelib, a set of behavioral characteristics of a visual representation is provided to the user, the behavioral characteristics representing contexts within which data is to be interpreted. In distinction with '433, behavioral characteristics of a visual representation is not used and not provided to the user. Furthermore, receivers are not given to interpret the emotive content from a set of behavioral characteristics, because the emotive content is directly given by emotive state, associated user normalized intensity and associated text

In Hatlelib, the behavioral movement provides context to the recipient for interpreting the communicated data. In distinction with '433, no behavioral movement data is provided.

In Hatlelib, animating the visual representation is responsive to the sequence of behavioral movements associated with the gesture. In distinction with '433, where there are no gestures or visual representation responsive to them.

In Hatlelib, in determining that a word in the data to be communicated belongs to a predefined category animating the visual representation responsive to the behavioral movement associated with the category. In distinction with '433, words in a predefined set of words do not operate on visual representations responsive to behavioral movement associated with a category.

In general, visual representation for behavioral movements by animation can comprise gestures that are indicative of an emotion. US 5,880,731 claims "a method for communicating a gesture by an avatar that represents a participant in an on-line chat session..." Gestures are learned behavior and are limited to specific cultures, age groups and fads. Gestures differ widely from culture to culture, age group to age group, and are easily confused. Mostly, gestures comprise a shallow and narrow non-verbal means of communication often found in face-to-face small talk, not unlike which a chat session can offer. Where the user chooses a gesture or avatar, not an emotive state and normalized associated intensity, the method is emotively imprecise. For these reasons, gestures can be very misleading and misrepresent the actual emotive state and intensity desired to be communicated by the user. Gestures also fail to recognize cultural differences and are limited and cannot be applied as a standard. Further more, the gestures are animated via "a sequence of visual frames portraying different views to produce an animation."

In general, since Hatlelib does not teach, use or claim the emovector entities or equivalent, Hatlelib cannot be encoding, decoding, tokenizing or processing the emovector entity in any express, implied or inherent sense as pertaining generally to claims 1-18.

Regarding '433 **Claim 1**, Hatlelib allows the user to select behavioral characteristics representing information providing a context within which a communication can be interpreted. In distinction, '433 does not provide the user with behavioral selections, only emotions and normalized intensities associated with those user selected emotions.

In Hatlelib col. 2, lines 1-35, a visual representation of a user is provided to a recipient. In distinction, '433 does not provide a visual representation of a user.

In Hatlelib col. 2, lines 1-35, a set of behavioral characteristics of the visual representation is provided to the user, the behavioral characteristics representing emotional contexts within which data selected by the user is to be interpreted by the recipient of the communication. In distinction, '433 does not allow the recipient to make any interpretation of an emotive content, the emotive content is strictly defined and selected by the user, in accordance with an emovector.

In Hatlelib col. 2, lines 1-35, behavioral characteristics are associated with behavioral movements to be animated by the visual representations. In distinction, '433 does not teach or claim any behavioral movements to be animated by visual representation. Behavioral movements require recipient interpretation as to precise emotional state and intensity as defined in an emovector, and therefore carry imprecision in emotive content transfer.

In Hatlelib col. 2, lines 1-35, the selected behavioral movement information causes the visual representation of the sender to animate facial and body movements that communicate the selected behavioral characteristics, thus providing the emotional context to the recipient for interpreting the communicated. In distinction, '433 provides the precise emotional context within an emovector, allowing the recipient application to select any programming that is required to depict a particular emotional context.

In Hatlelib col. 2, lines 1-35 example, if the user has selected extroverted behavioral characteristics, and types a phrase such as "Hello," the application analyzes the phrase and animates the visual representation with behavioral movements responsive to the selection of the extroverted behavioral characteristic, for example, animating the visual representation to say "Hello" with a big wave and a smile. In distinction '433 requires that the user only select the emotive state and associated emotive intensity normalized to the user and selected text is bound with the emovector for transmission. In '433, the receiver then does not need to interpret the emotions from extroverted behavioral characteristics because the precise emotive content is already present in the given emotive state and normalized emotive intensity. Moreover, the users emotion may be 1) non-externally demonsratable or 2) user may be an introvert and not understand characteristic of extroverted behavior or 3) recipient may have a different interpretation of the behavioral characteristic from the user. In '433, the selected text can display a speech or help box with the exact emotive state and associated intensity displayed, leaving no room for mis-interpretation by recipient.

Regarding '433 **Claim 2**, for encoding of emotive content into communication formats, Hatlelib, col. 2 lines 38-64, generates behavior movements responsive to natural language processing of text. In distinction, '433 processes the text with natural language processor searching for emotive state and associated intensity, not for behavioral movements that express a behavior responsive to the user's behavioral characteristic selection. Stereotypical personalities are not used in '433 as they add to imprecision in emotive content in association with the text. Neither does Hatlelib encode emotive state and associated intensity, as Hatlelib uses behavior characteristics and stereotypical personality behavior, encoding and decoding those data and not emovectors. Although better then emoticons by some standards, behavioral animation to convey emotive content is still imprecise, requiring the recipient to decipher, conjecture and infer the users intended emotive content. Hence Hatlelib does not encode emovectors into standard transmission formats, as they rely on the behavioral characteristics and animation for emotive content in transmission.

Regarding '433 **Claim 3**, for encoding of the emotive content into textual communication, Hatlelib, col. 3 lines 6-18, allows the user to select behavioral movements which are dynamic and energetic, for animating these movements in connection with the text, the visual representation communicates the personality desired to be communicated by the sender. Hatlelib therefore encodes selected behavioral movements for animation to communicate personality

desired by user. In distinction, '433 does not employ personality, and does not encode user selected behavioral movements for animation with text.

Regarding '433 **Claim 4,** for decoding of the emotive content electronic communication, Hatlelib, cols, 3 lines 27-45, allows the user to select mood intensity to adjust which behavioral movements associated with the personality type. The selection of mood intensity assigns each movement a weight that determines the probability the movement will be selected. This provides greater control over the behavioral movements of a visual representation to allow more precise communication of a sender's emotional state. However the behavioral movements encoded into the emotive content are still subject to interpretation and inference by the recipient. In distinction with '433, the user does not select mood intensity associated with a personality type. Neither is mood intensity used to assign any behavior weight for a visual representation. '433 instead decodes the user selected emotive state and normalized intensity directly, without any need for behavioral character or animation data which may be encoded in with the text.

Regarding '433 **Claim 5,** for parsing of the emotive content electronic communication for emovector tokens, Hatlelib, col. 5 lines 13-40, allows users to produce utterances, data strings which comprises text and/or behavioral information or behavioral commands. These are a choreography sequence from the utterance. A choreography sequence is a behavioral movement or sequence of movements that a visual representation of the user will perform in accordance with user selected behavioral characteristics to convey an emotional context within which the text portion of the utterance is to be interpreted by the recipient. In distinction, '433 does not provide users with functions to produce utternances or data strings representative of behavioral information or behavioral commands. Hence any tokenization of emotive content by Hatlelib cannot be emovectors, as emovectors do not carry utterances, behavioral information or behavioral commands.

In Hatlelib, behavioral commands without text information are transmitted in a choreography sequence to provide independent behavioral information to recipients. The resultant choreography sequence is sent to the server (as a binary TCP/IP packet) which then relays it back to all participants in the communication session where the choreography sequence is interpreted by application modules resident on their computers, which then animates the sender's visual representation on the display(s) of the recipient(s). In distinction with '433, behavioral information or choreographic sequences are not formatted or transmitted and therefore not parsed

for emotive content tokens in streams or packets. Furthermore behavioral information and/or choreographic sequences are not emotive state and associated normalized intensity, but are parameters that can be interpreted by the receiver for such information, however imprecise.

Regarding '433 **Claim 6,** for the tokenizing of the parts of speech of associated text and with the tokenized emotive content decoded from emotive vectors and text and synthesizing author's intended meaning text strings. Hatlelib, col. 7 lines 5-53, communicates the text data to the recipient concurrently with a behavioral movement of the visual representation associated with the selected behavioral characteristic, where the behavioral movement provides an emotional context to the recipient for interpreting the communicated data. In distinction with '433, which does not display visual representation from user selected behavioral character, which in Hatlelib provides emotional context to the recipient for interpretation. In distinction, '433 provides direct emotive state and associated normalized author intensity for tokenization and decoding. The user's intended meaning is then not subject to interpretation by recipient, but can be synthesized in text from tokens and pre-stored text strings and programmed grammars.

In Hatlelib, the behavioral movement is the manifestation of the behavioral information conveyed by the user through the selection of behavioral characteristics, through providing explicit behavioral commands, or through the choice of specific text in the data string. Upon viewing the behavioral movement of the user's visual representation, the recipient can interpret the data communicated by the user within an emotional context. In distinction, '433 does not provide selected behavioral movement from the user to recipient for its emotive content token manipulation with text data.

Furthermore, in Hatlelib, an example given is if the sender chooses an extrovert personality type, with a positive mood setting, the recipient will see the text animated with big hard motions, smiles and lots of movement. Then, if the sender sends a message such as "I think she likes me" with this setting, the recipient will get a sense that the sender is very enthusiastic about the person referred to. The sender's behavioral information is thus communicated to the recipient through the behavioral movements of the visual representation, providing an emotional context to view the text sent by the sender. In distinction with '433, if the same text example, "I think she likes me", is sent with an emovector of happy with normalized intensity of value 3, the recipient need not make any interpretation as to what that text meant to the user, the user intended to say "I think she likes me and that makes me somewhat happy." The "somewhat happy" is the

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tokenized emovector in text form, which is textually concatenated into the users text message. Many other textual renderings are possible but the user's feelings are clear, therefore no behavioral representations need be made in '433.

In Hatlelib, the user can select a positive or negative mood setting, the emotions communicated may not reflect the sender's actual emotions, as the sender can choose any personality or mood setting and have that choice of behavioral characteristic communicated to the recipient. The user selects behavioral characteristics, which are then converted to corresponding behavioral movements, which are coupled with the text. In distinction, '433 does not allow user to select positive or negative moods, or even positive or negative emotions. '433 teaches against positive and negative emotions. All emotions are treated as positive signals without a positive or negative user judgment attached. Tokenized behavioral movements from user selections are not emotive content which is tokenized or decoded or synthesized into text strings in '433.

In Hatlelib, the selection of behavioral characteristics includes receiving selection of on-the-fly behavioral information from the user to communicate to the recipient. The on-the-fly behavioral information is communicated as specific behavioral commands such as gesture commands, specific mood settings, personality settings, or through the analysis of the content of the text communication of the utterance. In distinction, '433 does not give the user selection of behavioral characteristics for on-the-fly behavioral information, specific commands for gestures, mood, or personality. Thus any decoding and tokenization does not include those. Moreover, those properties are at best approximations and recipient interpretations which do not go the distance in allowing recipient to synthesize the type of author intended meanings required.

Regarding '433 **Claim 7**, for the mapping of emotive intensity numerical value into one or more word text describing the emotive intensity value in express language which would qualify an associated emotive state with the intensity value. Hatlelib, col. 7, lines 53-67 and col. 8, line 1-21, allows the user selection of behavioral characteristics includes receiving of on-the-fly behavioral information to communicate to the recipient. The on-the-fly behavioral information is communicated as specific behavioral commands such as gesture commands, specific mood settings, personality settings, or through the analysis of the content of the text communication of the utterance. For example, a disclosure may be: "Hello Tom (wink)," "How are you today (smile)," "How's life in the salt mines at ACME Corp.? (RASPBERRY)." The gesture commands (wink), (smile), (raspberry) cause the user's visual representation to act out the command to

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emphasize the text and provide additional behavioral information. In distinction in '433 the emotive content is tokenized as emotive state and associated normalized intensity, and any embedded emotive content would be encoded, decoded, tokenized and synthesized not as behavioral information, behavioral commands such as gesture commands, specific mood settings, personality settings but as direct user emovector. Under '433 the example from Hatlelib would be transformed to something allowing the embedment of user feelings; "Hello Tom (Bored/5)," "How are you today (happy/3)," "How's life in the salt mines at ACME Corp.? (anxious/4)." The emotive state/intensity would be mapped to visual clues or embedded in text, but the precise emotive content would be available to the recipient in the form of the state/intensity so that the recipient would not have to make an interpretation as to the users intended emotive content through interpretation of behavioral antics or movements, which themselves have degrees of energy and intensity which may or may not accurately represent the author's intended feelings.

Regarding '433 **Claim 8**, for scanning and tokenizing of the embedded emotive content in the communications. In Hatlelib col. 8 lines 23-67, behavioral movement information, comprising instructions for performing the behavioral movement, are transmitted to the application module residing on the recipient's computer, which translates the behavioral movement information into behavioral movements. The behavioral movement information is preferably sent as part of a choreography sequence which is a specific format for transmitting the behavioral movement information specifying the timing and order of the movements to be performed, and providing links to the movements themselves which are stored on the recipient's computer. This is in distinction with '433, which does not scan for behavioral movement information or tokenize information and convert to behavioral movements for display on recipient's computer.

Hatlelib in an alternative embodiment allows the user to transmit the behavioral movements themselves to the recipient's computer, which then reproduces the movements on the recipient's display. In distinction with '433, same as above paragraph, which does not scan for behavioral movement information or tokenize information and convert to this to behavioral movements for display on recipient's computer.

Regarding '433 **Claim 9,** parsing communications containing the emotive content using emotive grammar productions to tokenize the emotive content in textual communications. Hatlelib, col. 9 lines 23-67, discloses a method of communicating data to a recipient concurrently

with a behavioral movement comprising an animation primitive or sequence file that animates the visual representation when executed. The movements themselves are preferably accomplished through the animation of skeletons underlying the visual representations. Behavioral movement and animation is typically done without any grammar productions as there is not advantage in doing so. Moreover, Hatlelib does not teach or disclose any such grammars with behavioral movements or emotions in general. Hatlelib teaches text-to-phenome translation simultaneous with behavioral movements. In distinction with '433, which discloses parsing for emotive states and associate intensities, not behavior, behavioral movements, behavioral sequences, phonemes in data communications. In '433, the grammar productions do not tokenize or use behavior objects, behavioral movements, behavioral sequences, and phonemes in data communications.

In Hatlelib, certain body parts are animated separately and synthesized at run-time, providing for independent control of said parts of the visual representation. Some behavioral movement is an animation of the facial components of the visual representation. The behavioral movements of a facial component of a visual representation include smiles, frowns, glares, winks, raising of an eyebrow (to express incredulity), yawning, rolling eyes, or any other facial expression that can be animated to provide context to a data communication. Additionally, the facial components can simulate speaking the written text, utilizing the synchronization of dialogue or text display and facial speaking movements. In another embodiment, the facial animation of the speaking visual representation mimics the gestures of a human speaker through known text-to-phoneme processing techniques. Furthermore, while these functions may use grammar productions at some point, Hatlelib does not teach them or disclose these grammars or productions. In distinction, '433 does not employ grammar productions for body movement, synchronization with body movements with text from data communication. Direct emotive state/intensity is associated with text instead. The productions and grammars operate on those directly.

In Hatlelib, the body components of the visual representation are also animated as appropriate to behavioral characteristics as commands. Body behavioral movements can include shaking a fist, waving, fidgeting, perhaps to show boredom, tossing a coin, snapping fingers, large hand sweeping movements to show high emotions, and other body movements that can be animated to provide context to a data communication. How these are programmed is not disclosed and the invention focuses on the dynamic display of behavioral movement with text from data communications. In distinction, '433 employs emotive state/intensity to depict users

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direct emotive state/intensity. As an illustration distinguishing from Hatlelib, using the above Hatlelib example, in '433 the user would not only select boredom as his/her intended emotive state, so that there would be no "perhaps to show" ambiguity, but under '433 the user would also disclose a normalized intensity associated with that state of boredom, hammering down exactly how bored the user is intending to indicate to the recipient. Under '433, the recipient would not need to guess the users emotive disposition from behavior tokens even if they were present in the data stream. Thus even if Hatlelib uses grammars, token and productions of of behavior elements, they are not taught, enabled or claimed and furthermore not relevant to '433 as behavior, personality or mood are not used or claimed.

Regarding '433 **Claim 10,** encoding emotive vectors normalized to the author with associated text in electronic communications. Hatlelib, col. 9 lines 55-67, discloses a method of displaying text in accordance with selected behavioral characteristics to further communicate behavioral information to a remote recipient. The text is analyzed by the sender's application module, and then the modified text is transmitted to the recipient. In distinction with '433, where the text is not analyzed, but encoded with the emovector for sending and transmitted to recipient.

When a text string is received for processing in Hatlelib, the text string is parsed using a conventional parsing methodology as is known to those of ordinary skill in the art. This is in distinction with '433 where the parsing uses a non-conventional method of parsing, tokenizing the emovector content in the stream, not currently known or identified in the art.

In Hatlelib, the text is displayed to the recipient in a size, font, and/or rate responsive to the received behavioral information. This in distinction with '433, where the emotive content is not displayed to the recipient responsive to received behavioral information, but emotive information. In the Hatlelib example, if the user selects an intense mood intensity, text may be displayed on the screen at a fast rate, or in a large font size, or in a bold typeface in a particular font. If the user selects a more relaxed intensity, the text may be displayed more slowly, in a smaller size, and in normal typeface, with a different font. The intensity variable in Hatlelib is based on mood or behavior, not on the users direct emotive state. Thus the intensity is not directly a function of users emotive disposition, only a selected behavior. Also, under Hatlelib the intensity is not normalized to the user, and users having different emotive behaviors will manifest these emotive behaviors differently and with differing intensities. Hence, Hatlelib does not

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disclose encoding of emotive vectors normalized to users, and furthermore, Hatlelib does not even disclose normalized behavior or mood intensities, but an absolute and none calibrated scale.

Regarding '433 **Claim 11,** structuring and synthesizing emotive parsers with productions exploiting emotive vectors encoded in textual datastreams. In Hatlelib, col. 10 lines 5-59, the display of text can also be controlled by the selection of behavioral characteristics, such as personality settings, by behavioral commands such as gestures, or by the content of the data string, by examining the text for predefined phrases, or other indicators. In distinction with '433, structuring and synthesis by emotive parsers and productions operate on the natural grammatical tokens and the emotive state /intensity emovectors, not selections of behavioral characteristics, behavioral commands, personality settings, gestures or predefined phrases of such structures.

In the given Hatlelib example, if a sender chooses an introverted personality with a depressed mood setting, the text is displayed in small plain font and at a slow rate. If an exclamation point is used, the sentence is displayed in all capital letters in a different color, such as red, to indicate excitement. Thus, this display of the text communicates the mood of the sender, providing the recipient with the emotional context with which to interpret the information. In distinction with '433, where the user selects the emotive state "excitement" and associates a normalized intensity, that emovector is transmitted and is used in parsing and synthesizing the intent and meaning of the associated text. That display of emotive content may or may not be on recipient demand, but user selected mood and behavior are not a part of the structuring and synthesizing emotive parsers with productions exploiting emotive vectors. Neither does Hatlelib use direct emotive state selection for encoding but instead used the indirect indicators from behavioral, personality and mood characteristics.

Under Hatlelib, three states are defined: acting, listening, and fidgeting. Acting refers to the state when the visual representation is either talking or gesturing. For the listening state, whenever another user is acting (talking or gesturing) the user's visual representation appears attentive; the degree of attentiveness is a function of the personality type or other behavioral characteristic selected by the user. In general, these movements reflect listening movements, for example, when text is received, the visual representation nods occasionally or otherwise indicates that it is `following` the oration. The fidgeting state refers to a state in which the user's visual representation is neither acting nor listening. In this state as well, the behavioral movements of

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the visual representation are selected responsive to the selected personality or other behavioral characteristic of the visual representation.

While in Hatlelib this may require some amount of parsing and text manipulation, none of these three states: acting, listening, and fidgeting, are present in '433. '433 does not use these because they are not part of an emovector, emotive state or intensity. Thus '433 does not need to structure or synthesize parsers with productions using the Hatlelib's three states of behavior, acting, listening and fidgeting. Any of the three of these Hatlelib states will contain a full gamut of emotions, and these states are not limiting or operationally indicative of any necessary direct emotive states for a user, and not used by '433. Neither do these three states use emovectors, as acting, listening or fidgeting are behavior and not emotions.

Regarding '433 **Claim 12-16,** the above analysis in claims 1-11 is applicable.

If any matters can be resolved by telephone, Applicant requests that the Patent and Trademark Office call the Applicant at the telephone number listed below.

Respectfully submitted,

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